

CHAPTER I

INTRODUCTION

1.1 Background of The Research

In today's globalized world, mastering English speaking skills is more essential than ever, especially for autonomous learners who take charge of their own language education journey. In Indonesia, many students still struggle with speaking English. This is highlighted in a 2020 report by Education First (EF), which shows that the English proficiency of students in Indonesia is still low. In the English Proficiency Index, Indonesia ranks 74th in the world and 15th in Asia with a score of 453, which is considered low (Tika & Abadi, 2021). On the other hand, some students demonstrate good speaking skills because they learn autonomously. Autonomous learners are able to create a good learning environment both inside and outside the classroom (Bao et al., 2024). Learning English speaking autonomously allows students to practice more often, monitor their progress, and correct their own mistakes (Warna et al., 2025). Although some students show good speaking skills because they learn autonomously, many of them do not understand the actual process that occurs when learning English speaking autonomously. Therefore, this study aims to determine the process of learning speaking English among autonomous learners.

In order to determine the process of learning English speaking among autonomous learners, it is necessary to realize that speaking skills involve a complex process. Lutfi (2020) states, speaking involves several aspects such as vocabulary, grammar, pronunciation, and fluency. Sternberg & Sternberg (2012) also stated that speaking ability is not only about producing words or sentences, but also involves complex mental processes in the brain. This process consists of perception, comprehension, and language production, all of which are interrelated. Because speaking involves these cognitive mechanisms, students' self-awareness

and self-regulation become very important. This is where autonomous learning plays a key role, as it allows learners to consciously monitor and manage their own learning process. In this context, autonomous learners act as agents who bridge their understanding of how cognitive processes influence their speech development (Werdiningsih, et al., 2022). In conclusion, autonomous learning plays an important role in the process of learning English Speaking.

Learning itself is the process of receiving information from outside sources and then processing it in the brain. Learning is based on how the brain processes, interprets, and organizes information (Cherukunnath & Singh, 2022). In the learning process, genetic and environmental factors play a very important role. This is because humans have the ability to change and adapt. Therefore, when humans learn new things, the neural pathways in the brain that are frequently used will become stronger (Goldberg, 2022). For the learning process to run smoothly, there needs to be repetition, intensity, and focus on what is being learned. In other words, students must be actively involved in the learning process. In conclusion, the process of learning occurs in the brain, and the intensity of how long information stays in the brain is influenced by how often the information is repeated during the process of learning.

In the process of learning, there is information processing, such as attention, perception, encoding, storage, and retrieval (Fourie & Schlebush, 2022). Therefore, the brain plays a role in receiving and processing information. Humans receive information through various senses, such as hearing and sight. The process of receiving information begins and is processed in the brain. In information processing, there are several stages as described earlier. The first stage is attention, which relates to how humans focus on one or two things. This stage affects both short-term and long-term memory. The second is perception, which relates to how humans interpret information. The third is encoding, where short-term and long-term memory work. After being processed in attention and perception, the brain processes and sorts which information will be stored in short-term or long-term memory. If at the attention stage, the focus is not divided and repetition often

occurs, then the information will enter long-term memory. The fourth is retrieving information that has been stored in memory.

Memory is the ability to store and retain information so that it can be used again. In order for the information obtained to be stored properly in memory, a deep understanding of cognitive processes is necessary. In addition, creating successful language learning plans and interventions also requires an understanding of cognitive processes (Lustiyantie et al., 2025). Cognitive processes, which are specific things that happen in the mind when trying to understand and remember what is seen, heard, and learned, have a significant impact on what is learned and remembered (Ormrod et al., 2020). When paying attention, understanding, remembering, and connecting new information with old knowledge, that is where cognitive processes take place. This process determines how successfully humans can absorb and remember lessons. Learning is based on neurological processes driven by physical changes in the brain (Pradeep et al., 2024). In conclusion, the process of learning English speaking is related to how the brain processes, stores, and remembers information.

Based on the literature, previous studies have discussed autonomous learning in English speaking, which can be grouped into five clusters. The first cluster focuses on exploring and identifying the strategies used by students in autonomous learning in academic speaking, (Wael et al., 2023). The second cluster focuses on the level of autonomous learning in learning English speaking (Andriani & Sujarwati, 2025). The third cluster focuses on students' preferences for autonomous learning. Some students prefer face-to-face learning, while others prefer distance learning (Fujii, 2024). The fourth cluster focuses on students' perceptions of autonomous learning (Firman et al., 2020). The fifth cluster focuses on the process of autonomous learning of students in English public speaking classes (Boonma & Swatevacharkul, 2020).

Previous research has also contributed in this field by exploring several related topics, particularly discussing the process of learning English speaking

among autonomous learners. These research generally focused on learners' strategies and process in learning English speaking autonomously. Previous research discusses three strategies used when learning English speaking autonomously. The first is cognitive strategy, which is usually used to process information directly, such as reading, remembering, paying attention, and asking questions. The second is metacognitive strategy, which is usually used to plan and evaluate the learning process. The third is social strategy, where students engage in social interaction in the learning process, such as giving and receiving feedback from friends regarding the learning process. Not only that, research by Bao et al. (2024) highlights other strategies in learning English speaking autonomously such as talking to oneself, using a mirror, singing, practicing tongue twisters, reading books, talking with native speakers, taking English courses, watching movies, using applications, and watching YouTube.

Another previous research also discussed the influence and tangible forms of autonomous learning process in public speaking classes using four dimensions, such as technical, psychological, critical political, and sociocultural. In general, the results show the success achieved by autonomous learners. Although those research provided valuable findings, previous studies had limitations in terms of research methods, research areas, and scientific approaches. Research discussing strategies in autonomous speaking learning uses quantitative methods to collect data, and the results of this study show that, in general, the subjects in this study do not yet have a clear or specific explanation of how students apply autonomous learning strategies, especially in academic speaking learning activities (Wael et al., 2023). This study also only covers a specific research area, so the results cannot be generalized to other areas.

In addition, previous studies also discussing the process of autonomous learning in speaking skills used a mixed method, whereas this study only sought to determine the influence of the autonomous learning process based on a four-dimensional approach to learning independence, such as technical, psychological, critical-political, and socio-cultural in English public speaking classes in Thailand.

Furthermore, the learning speaking process is not described in depth. Namaziandost et al., (2024) states that both theoretical and empirical research is needed to determine and understand how autonomous learning works on the internal aspects of students. Therefore, Zhong et al., (2025) suggests that further studies are needed on the internal mechanisms of student learning processes when learning English speaking autonomously. By identifying and explaining limitations, researchers help readers understand the extent to which research results can be generalized or applied, as well as clarifying the focus and scope of the findings. This step also encourages exploration of unexplored areas, thereby enriching the development of science (Ross & Zaidi, 2019).

It is necessary to determine and understand the process of learning English speaking experienced by autonomous learners to achieve success in learning English speaking. Understanding the process of learning English speaking autonomously is crucial because it involves the organization of information and the internal processes of students. Clear information reception will support students' thinking processes, so they can more easily understand the material and apply it in their daily lives (Brayadi, et al., 2021). However, there is still little research discussing the cognitive process when learning English speaking autonomously and the areas of the brain related to how autonomous learners acquire, understand, remember, and produce language, especially in the productive aspect of speaking skills. This indicates a gap for this research.

To address this gap, this research conducts an in-depth exploration of the process of learning English speaking skills that occurs in independent learners. The process is focused on the cognitive processes in English language learning that occur in the brain. Therefore, this research is important because it explores, identifies, and understands how this process takes place. This view is in line with Firmanto et al. (2028) that the ability to absorb information depends on cognitive readiness. Thus, this study uses a cognitive psychology and neuroscience approach to examine whether the process is in line with the actual conditions experienced by autonomous learners.

To examine the alignment between theory and the real conditions experienced by students empirically, this study involved sixth-semester participants from the English education study program as research subjects. They were considered suitable subjects because they had sufficient experience in learning English speaking. By becoming autonomous learners, students can evaluate their own learning experiences and set their own learning goals and targets. They also learn to face challenges, such as how to convey ideas or theories they have gained from independent learning experiences (Dewi, 2020). This was also in line with the focus of the study, which centered on three interrelated keywords, which are process of learning, speaking skill, and autonomous learning. Each keyword explains how autonomous learners can process English speaking learning autonomously.

This is an interesting field of research because the mind, brain, and education examines how education and brain function are interrelated, as well as how learning can be improved through interventions that target brain function (Pradeep et al., 2024). Students who understand this theory will realize that the way the brain processes information and the learning environment created greatly influence learning success. Thus, students can choose the right learning strategies so that they are more engaged, understand the material more easily, and find it easier to remember and recall the information they have learned (Fourie & Schlebusch, 2022).

1.2 Identification of The Research Phenomena

Some students can speak English because they have studied independently, but the problem is that many still do not fully understand how the process of learning to speak English actually occurs. This condition shows the need for a more in-depth study of the cognitive processes that occur when independent learners study English autonomously. The researcher intends to explore and analyze how independent learners store, process, and produce language during the process of

learning to speak, with reference to cognitive psychology and neuroscience theories. Although previous studies have discussed strategies, activities, and processes of learning to speak English for independent learners, there is still little research that specifically examines the underlying cognitive mechanisms. Therefore, this study seeks to fill this gap by examining whether the cognitive processes described by theory are consistent with the actual conditions experienced by independent learners. A deeper understanding of this process is expected to provide new insights into how independent learners internalize language and support the development of more effective English speaking learning strategies.

1.3 Delimitation of The Research

The focus of this research is to examine the process of learning English speaking among autonomous learners. Therefore this research specifically delimited to the process of learning, speaking skills, autonomous learners, especially students majoring in English education sixth semester. This delimitation was determined to maintain alignment with cognitive and neuroscience perspectives, as speaking is a complex productive skill that strongly involves cognitive activity. The findings aim to provide an in-depth, contextual understanding rather than broad generalization and are not intended to represent all English learners in general. This research also has various limitations. First, the researcher was unable to record brain activity during learning using EEG, fMRI, or other neuroscience instruments due to limitations in time, cost, and research facilities. Therefore, the cognitive and neural processes underlying speaking learning were examined through secondary scientific sources, such as books and relevant journal articles. Second, the researcher encountered challenges in searching for and selecting appropriate literature, since the topic involves multidisciplinary perspectives requiring highly specific source relevance. Third, the researcher also faced difficulties in screening and selecting participants who meet

the criteria of autonomous speaking learners, as not all students demonstrate consistent independent learning tendencies.

1.4 Research Questions

1. How is the process of learning speaking based on autonomous learning?
2. How do the autonomous learners process their learning of English speaking?

1.5 Aims of The Research

1. To describe the process of learning speaking based on literature in autonomous learning.
2. To examine the subjects in this research about the process of learning English speaking.

1.6 Significance of The Research

1.6.1. Theoretical

This research theoretically provides new evidence regarding the cognitive processes involved in learning English speaking and the areas of the brain involved in these processes. By adopting theories from cognitive psychology and neuroscience, this research aims to broaden perspectives on autonomous learning in English speaking skills by focusing on the cognitive processes involved. In the field of TEFL, this theoretical contribution is relevant to examine how autonomous learners internalize speaking skill through cognitive and neurological mechanisms, enriching current perspectives in learning speaking among autonomous learners.

1.6.2. Practical



This research Practically provides insight for teachers and students so that they can understand the cognitive processes that actually occur when learning speaking autonomously. Thus, teachers can choose the right strategies, methods, and media for learning speaking, as can students. If understand how the brain processes information when learning a language, especially when learning English speaking, then both teachers and autonomous learners can create more effective, intelligent, and efficient learning methods. In TEFL, this finding helps teachers design cognitively informed speaking activities that align with how learners' brains process learning English speaking autonomously.

1.7 Theoretical Foundation

1.7.1. Learning

1.7.1.1. Definition of Learning

Learning is an activity that connects new information with prior knowledge, how to organize information correctly, and how to acquire cognitive learning strategies (Fourie, M., & Schlebusch, G., 2022). Cadorin et al., (2014) add that learning is a process in which a person gradually absorbs and develops knowledge, from simple to complex and abstract concepts. Examples include understanding concepts, categories, behavior patterns, and thinking models.

Learning is characterized by changes in thinking during the learning process. This highlights the mental processes underlying the processing of new information, such as observing explanations, interpreting graphs, and connecting new concepts with prior knowledge. This shows that the learning process is a process of relative mental structural change that arises from an individual's interaction with their environment (Fadhila & Nirwana, 2022). Learning certainly requires a process. Learning always involves internal and external processes. These processes include how a person understands and stores information, as well as interacts with experiences, instructions, and the environment (Brown, 2007).

Through learning, humans not only gain new knowledge, but can also connect old knowledge with new knowledge. This leads to memory reinforcement in the brain. The process of learning strengthens neural connections that occur through repetition and repeated use of information. The part of the brain that manages higher-level cognitive functions such as learning is located in the cerebellum (Woolfolk, 2019). In learning, it is important for learners to repeat and review the material. Repetition of information is necessary so that the information obtained during learning is stored in long-term memory.

In conclusion, learning is a process in which a person receives new information and connects it with their existing knowledge or experience. The learning process does not happen instantly, but rather through several stages of receiving, understanding, and storing information. When a person repeats a piece of information often, the brain will recognize it more easily so that it can be stored in long-term memory. In other words, the more often information is repeated and used in life, the stronger the memory of that information will be. Therefore, learning is a continuous interaction between old experiences and new knowledge that can help a person experience and remember information.

1.7.1.2. Characteristics of Learning

Learning characteristics encompass various interrelated aspects that form a complete learning experience. It is a process that occurs in the brain involving not only one part of the brain, but many interconnected pathways and areas of the brain. Learning strengthens neural connections that occur through repetition and repeated use of information. When learning occurs, new information is connected to prior knowledge and organizes information properly. Learning also obtain cognitive learning strategies involving internal and external processes on how a person understands and stores information, so it utilizes personal interaction with experiences, instructions, and the environment by changes in thinking during the learning process that emphasizes the mental processes underlying the processing of new information, such as observing explanations, interpreting graphs, and

connecting new concepts with prior knowledge. Through learning, a person can adjust their way of thinking, behaving, and acting in accordance with the knowledge they have acquired.

1.7.1.3 Kinds of Learning

Learning is a complex process that occurs in different ways. Each learning process has different types depending on the objectives, context, and needs. Therefore, we must understand the types of learning processes. There are three types of learning; direct instruction, collaborative learning, task-based learning (Houssami & Benattabou, 2024).

1. Direct instruction

This learning contains teacher-centered learning. In this activity, the teacher acts as the main source of knowledge and provides explanations directly to students through lectures or explanations in front of the class (Houssami & Benattabou, 2024). The main focus is on mastering grammar and vocabulary.

2. Collaborative learning

This learning emphasizes cooperation among students. Students can learn through group discussions, joint projects, or collective problem solving (Houssami & Benattabou, 2024). By emphasizing cooperation among students, it can increase social interaction in groups and improve understanding because students can exchange ideas, help each other, and learn from different perspectives.

3. Task-Based Learning

This learning uses language as a tool to complete tasks. For example, when students are asked to make a presentation, write a formal email, and conduct an interview (Houssami & Benattabou, 2024). This helps students to use language in real-life contexts and communicate effectively in various situations.

1.7.2. English Speaking Skills

1.7.2.1. Definition of Speaking Skills

Speaking skills is a complex process because it involves verbal and oral communication related to linguistic abilities, including grammar. Non-linguistic abilities include gestures, body language, facial expressions, and paralinguistic elements, including intonation and word stress (Cendra & Sulindra, 2022). From another perspective, Tohnbury (2005) states that speaking is essentially a real-time process, meaning that it is not possible to plan every word in advance. Speech is linear, meaning that words follow words, phrases follow phrases, and sentences are formed as people speak. Each utterance usually appears one at a time in response to what others have said.

Speaking is considered a productive verbal communication skill that involves other individuals to convey information through the pronunciation of words. Speaking is also used to convey ideas aimed at increasing knowledge (Wael, et al., 2018). Speaking is a tool for communicating between one person and another. Speaking also serves as a tool for exchanging ideas, thoughts, and feelings. This is supported by Nhi & Duc (2024) who state that speaking is a communication process to convey thoughts, feelings, opinions, and arguments through words. In addition, speaking is an interactive and collaborative process in which the speaker and listener create and interpret meaning together, requiring understanding, responsiveness, and interpretation from both parties for effective communication.

Not only that, Jahanaray & Zohoorian (2022) argue that speaking involves a complex process, starting from internal processes that occur in the brain to external processes when speech is produced. The internal process before speech production involves the formation of ideas in the brain, which are then converted into sound signals that can be understood by others. This process involves several stages, from the movement of the speech organs to the formation of sound. In

addition, there are parts of the brain involved in speaking, namely the anterior insula, Broca's area, motor cortex, putamen, thalamus, brain stem, and midbrain.

Cognitive areas such as learning, memory, attention, and perception are related to speaking English (Portugal-Toro et al., 2025). Before uttering words through the mouth, there are certain stages or processes that occur in the brain. These include vocabulary acquisition, word structure analysis, pronunciation, and fluency, all of which are regulated by the brain in order to produce speech. Speaking involves a complex process. Speaking involves a number of cognitive processes (Karakuş, 2025). It includes as planning and carrying out the motor actions necessary for speaking, organizing ideas, selecting the appropriate vocabulary (lexical access), putting words together into sentences (phrase-structure building), and determining each word's phonological form (Hu, et al., 2023). When humans speak, many things happen at the same time and are interconnected (Karakuş, 2025). Speaking is not just about uttering words or sentences, but involves coordinated stages from the brain to speech production. Numerous neuroimaging studies demonstrate that distinct mechanisms underpin each of these stages (Zheng & Zhang, 2022).

In cognitive psychology and neuropsychology studies, it is mentioned that the ability of speaking is dominantly processed in the left side of the brain. This plays a role in language structure and word meaning. Meanwhile, the right side of the brain is responsible for understanding the overall meaning and expressing things such as tone of voice, body language, metaphors, sarcasm, and jokes (Sternberg & Sternberg, 2012). Previous research have shown three cerebral lobes are involved in the process of speaking, such as the frontal, parietal, and temporal lobes. The areas of the brain implicated in speaking comprehension there is wernicle's area which can be referred as speech sensory center (Giglio, Ostarek, Weber, & Hagoort, 2022). Heschl's gyri and primary auditory cortex for auditory processing. While speech production is located in Broca's area, the regulation of movements prior to speech is located in the premotor cortex, and the coordination

of movements and sensory information is processed in the basal ganglia and thalamus (Jahanaray, Jahanaray, & Zohoorian, 2022).

In conclusion, speaking is an activity that involves a complex process. It is not only producing words or sentences but also expressing ideas, thoughts, and feelings. It requires coordination between the brain, mouth, and body language to deliver messages clearly. In order to deliver messages, when speaking, a person must also pay attention to grammar, body language, and intonation, so that when communicating with someone, information can be conveyed properly. Thus, speaking can be said to be a complex skill because it involves linguistic, psychological, neuroscientific, and social aspects simultaneously. Therefore, to be a good speaker, a person needs to practice not only language proficiency, but also confidence, clarity of delivery, and the ability to understand the listener.

1.7.2.2. Characteristics of Speaking Skills

Speaking is a productive language skill with several distinctive characteristics, both in terms of grammar usage and oral text formation. It involves internal and external processes. An internal process starts with the formation of ideas in the brain, which are then converted into sound signals. It contains several stages, starting from the movement of the speech organs to the formation of sound. On the other hand, an external process involves producing utterance, so that it can convey thoughts, feelings, opinions, and arguments. It contains linguistics elements, non-linguistics elements such as gestures, body language, facial expression, and paralinguistics elements including intonation and word stress. Speaking needs a real-time process that makes interactive, engaged, and collaborative processes and both speakers and listeners can create and interpret meaning together, requiring understanding, responsiveness, and interpretation.

1.7.2.3. Kinds of Speaking Skills

Speaking is one of the most essential skills in language learning because it allows learners to communicate ideas, express opinions, and interact effectively in real-life situations. To develop this skill, it is important to understand that speaking is not a single, uniform activity, but involves different forms and purposes depending on the context and interaction. There are six types of speaking; imitative, intensive, responsive, transactional interpersonal, and extensive (Brown, 2004).

1. Imitative

Low level learners, when they are not able to speak at a certain speed, need practice in the form of repeating words, phrases, or sentences. This type focuses on students' ability to imitate and repeat speech (Brown, 2004). Activities include students repeating words, intonations, and sounds that have been modeled. The goal is to practice language forms such as pronunciation, intonation, and specific patterns. The focus here is not on communication, but on practicing pronunciation and intonation.

2. Intensive

In this type, students are trained to speak in order to practice phonology or grammar in depth. Activities can be done individually or in pairs, for example sentence pattern practice, drilling, or repetition (Brown, 2004).. The focus here is not on communication, but rather on practicing language forms in greater detail.

3. Responsive

This type involves short conversations. For example, students are given several short questions and then respond to them. The focus is on responding to short conversations (Brown, 2004).

4. Transactional (dialogue)

Transactional or dialogic, used to convey or exchange information. Typically, this type is longer and more complex than responsive communication. It usually involves a process of negotiating meaning. Transactions usually focus on accomplishing something and achieving a specific goal (Richards, 2015). There are two types of transactional communication, such as information transactions, which involve exchanging information, like asking for an address. Then there are goods and services transactions, which aim to obtain something, like ordering food or asking the price of a book (Brown, 2004).

5. Interpersonal (dialogue)

Interpersonal dialogue is not only for exchanging information, but also for building and maintaining social relationships. Examples of this type of conversation usually use informal language that contains humor, slang, sarcasm, and emotion. It is usually used when starting a conversation with close friends (Brown, 2004).

6. Extensive (monologue)

In this section, students are asked to perform a monologue. An example is an oral speech presentation. It usually uses formal language and is more structured using good linguistic rules. This monologue can be planned or spontaneous (Brown, 2004).

1.7.3. Autonomous Learners

1.7.3.1. Definition of Autonomous Learners

Autonomous learners are active learners who are able to monitor the learning process and engage directly in the learning process itself. This is a prerequisite for success in language learning, both in terms of monitoring and

controlling the learning process. This allows learners to give themselves freedom in learning, engage in critical reflection, and make decisions and act independently (Irgato ~glu, et al. 2022). Independent learners are individuals who can control their learning process without relying on others. In addition, Jing et al. (2025) argue that independent learners are individuals who are able to solve problems by thinking flexibly, for example, by thinking in a focused and logical manner to find the correct answer. In addition, they can think creatively by looking for various possible answers.

An independent learner is someone who can take charge of their learning process without relying on others. In addition, Jing et al. (2025) argues that independent learners are individuals who are able to solve problems by thinking flexibly, for example by thinking in a focused and logical manner to find the correct answer. Furthermore, they can think creatively by exploring various possible answers. Autonomous learners are individuals who are active and independent in the learning process. They do not only rely on teacher guidance but can take the initiative to determine what they want to learn and the best methods to learn it. In autonomous learning, this learning model is important in the 21st century because it trains students to learn through experiences and real situations that are relevant to their lives (Rizki et al., 2023). With this, autonomous learners can identify the material they have understood and what they have not.

In addition, autonomous learners have important responsibilities in the learning process, such as setting learning goals, determining learning materials, choosing learning strategies, monitoring the learning process, and assessing and evaluating learning outcomes (Salamanja & Kholis, 2023). Thus, autonomous learners understand what they will learn and what they will gain from learning because they consciously determine their learning activities. This makes learning activities run effectively.

In conclusion, autonomous learners are active, independent learners who have the freedom to manage their own learning process. Autonomous learners usually have a flexible and open mindset, as they can adapt to various learning situations and do not easily depend on others. For example, they do not only depend on and receive material from teachers, but can monitor and control their learning process independently. Therefore, autonomous learners have the responsibility to determine their learning goals, learning strategies, learning preferences, and learning media that best suit their needs. In addition, autonomous learners can also evaluate their own learning outcomes, so they know which materials they have understood and which they have not. This ability gives them a high level of awareness in the learning process.

1.7.3.2. Characteristics of Autonomous Learners

Autonomous learners have four dimensions of learning independence, including the first, technical dimension, which emphasises learning abilities and strategies. Second, the psychological dimension, which emphasises students' attitudes, motivation, and emotions. Third, the political-critical dimension, which emphasises students' identity and self-awareness. Fourth, the psychocultural dimension, which emphasises that learning independence also grows through social interaction and collaboration among peers (Boonma & Swatevacharkul, 2020). Autonomous learners have a high sense of responsibility, the ability to reflect on themselves, high self-motivation, the ability to choose learning strategies and resources, time management and planning skills, flexibility, and good problem-solving skills.

1.7.3.3. Kinds of Autonomous Learners

According to Nunan (1997) as cited in Dang (2025), there are five levels of becoming an autonomous learner. First, awareness. This is when students become aware of the learning objectives and content they are studying. At this stage, students begin to understand why they need to learn. Second, involvement. At this stage, students begin to set their own learning goals,

meaning they already have control over themselves. Third, intervention. At this stage, students arrange and adjust the objectives and content of the material to suit their needs and interests. Fourth, creation. At this stage, students are able to set their own learning objectives and plans without having to wait for instructions from the teacher. Fifth, transcendence. At this stage, students not only learn in the classroom, but can also apply their learning to real-world situations.

1.7.3.4. Strength of Autonomous Learners

Autonomous learners have several strengths. First, they develop independence. Independence is a basic human need, just like independent learning, which arises from a desire to learn and develop. Second, they become motivated and creative. Students become more enthusiastic and responsible for their learning process because they already know their learning capacity. Thirdly, it can improve communication skills in foreign languages. As stated by Bao et al (2024), independent learning can improve the quality of language learning processes. When learning independently, students become more active in finding ways to understand and use language, rather than just waiting for instructions from teachers. Not only that, autonomy can help students build broader social relationships, such as through discussion, collaboration, or interaction. Furthermore, independent learning skills shape a mindset of becoming lifelong learners, individuals who continue to learn throughout their lives.

1.7.4. The Relationship Between One Topic With Other Topics

In this research, there is a relationship between the process of learning English speaking and autonomous learners. An autonomous learner is someone who can take responsibility for their own learning process. Autonomous learners can determine their learning goals, learning strategies, learning preferences, learning media, and even evaluate their learning outcomes independently. On the other hand, learning is the process of receiving

information. This process is processed through internal and external channels and can develop knowledge, from simple to complex and abstract concepts, observe explanations, interpret graphs, and connect new concepts with prior knowledge. Therefore, autonomous learners can be considered to have a relationship with the learning process because they have a high awareness of the learning process. Just like learning to speak autonomously, speaking skills are not only acquired through mechanical repetition or teacher instruction, but also through the learner's active involvement in planning, monitoring, and evaluating their own learning process.

Autonomous learners also understand the cognitive processes that occur in the learning process, such as how students pay attention to learning, process perceptions, repeat material, and know when to use the material again. Autonomous learners can consciously understand the process of learning to speak independently, for example, practicing speaking through audio that is then repeated, through images interpreted in the brain, or even through conversations with peers. Everyone's speaking learning outcomes are different. Understanding how the brain works during the learning process can encourage self-reflection and goal setting that supports independence by helping students evaluate and adjust their learning techniques (Pradeep et al., 2024). Do they understand better when learning to speak through audio or visual media? Therefore, this study aims to explore and analyze whether the speaking learning process experienced by students is in line with the literature or whether there are differences.

1.8. Previous Reseach

The study entitled *The Effect of Autonomous Learning Process on Learner English Public Speaking Students* by Boonma & Swatevacharkul (2020) focuses on how the autonomous learning process can improve the learning independence of students taking public speaking courses in English. This study uses mixed methods

with an embedded experimental design. Data were collected through the Learner Autonomy for Public Speaking questionnaire, while quantitative data were collected from students' written reflections after participating in the autonomous learning process. This study focused only on four main dimensions of learning independence, namely technical, psychological, critical political, and sociocultural. The context of this study was autonomous learning in public speaking courses.

Research by Khulaifayah et al. (2023) entitled Initial Activities Encouraging Students' Autonomous Learning: Faculty Teacher Training and Education Program examines how initial learning activities can foster student independence in higher education. This study emphasises the importance of learning autonomy in English language learning. Using qualitative methods through case studies and content analysis, the results show that lecturers play an important role in building student autonomy through five types of initial activities, namely explaining learning objectives to help students set personal goals, designing joint learning plans, encouraging initiatives to find learning resources, and actively using English in class. This study also highlights that the higher education context in Indonesia still tends to be lecturer-centred, so the implementation of initial activities that encourage autonomy is a strategic step towards shifting the paradigm towards more collaborative and student-centred learning.

Research by Agustina et al. (2025) entitled Indonesian Students' Autonomous Learning Activities to Support English Mastery in the Era of Merdeka Belajar highlights how students develop independent learning in the context of the merdeka belajar policy. Using a qualitative descriptive method through open-ended questionnaires, the results of the study show that 94.74% of students engage in independent learning activities such as listening to songs, watching English films, learning through the internet, and using Google Translate. Meanwhile, research by Nurchalis et al. (2022) entitled Students' Autonomous Learning Activities outside the Classroom to Master English as a Foreign Language used a quantitative descriptive method with questionnaires to see the extent to which students can participate in independent learning activities that focus on four language skills,

namely listening, reading, speaking, and writing. The results show that independent learning activities are still dominated by entertainment-related activities, such as listening to songs and watching films, while reading and writing in an academic context and speaking in English are still rarely done due to fear, lack of confidence, and limited vocabulary.

In specific topic, this current study discusses the process of learning English speaking among autonomous learners. There have been several previous studies that discuss the process or activities of learning in autonomous learning. Research that discusses how the process of autonomous learning can increase the learning independence of students who take public speaking courses in English only focuses on the four main dimensions of learning independence, namely technical, psychological, critical political, and sociocultural (Boonma & Swatevacharkul, 2020). Thus, the limitations of this study are located in the research context, namely public speaking and the four main dimensions of autonomous learning. Research discussing initial activities to encourage and foster a sense of learning independence among students on campus only explains the technical aspects of these activities (Khulaifiyah et al., 2023). Other studies discussing how Indonesian students develop learner autonomy in learning English under the independent learning policy focus on the general English learning activities they do outside the classroom (Agustina et al., 2025). There are also studies discussing independent learning activities outside the classroom that focus on the four English skills, namely listening, reading, speaking, and writing (Nurchalis et al., 2022).

Researchers have conducted an in-depth investigation of various previous studies relevant to the current research topic, selecting and categorizing each study based on its research topic. These previous studies were then critically compared to identify research gaps and determine the position of this study among previous studies. After analyzing various relevant previous studies and identifying research gaps that have not been studied in depth, many studies discuss autonomous learning in general terms, such as strategies, preferences, and media used, without discussing in depth the process of how students use strategies, preferences, and media

autonomously. In addition, studies that discuss student activities during autonomous learning only examine learning activities outside the classroom and focus on English language learning in general and discuss the four language skills. Some studies examine speaking, but in the context of public speaking. It can be concluded that previous studies mostly discuss technical activities and processes and external matters.

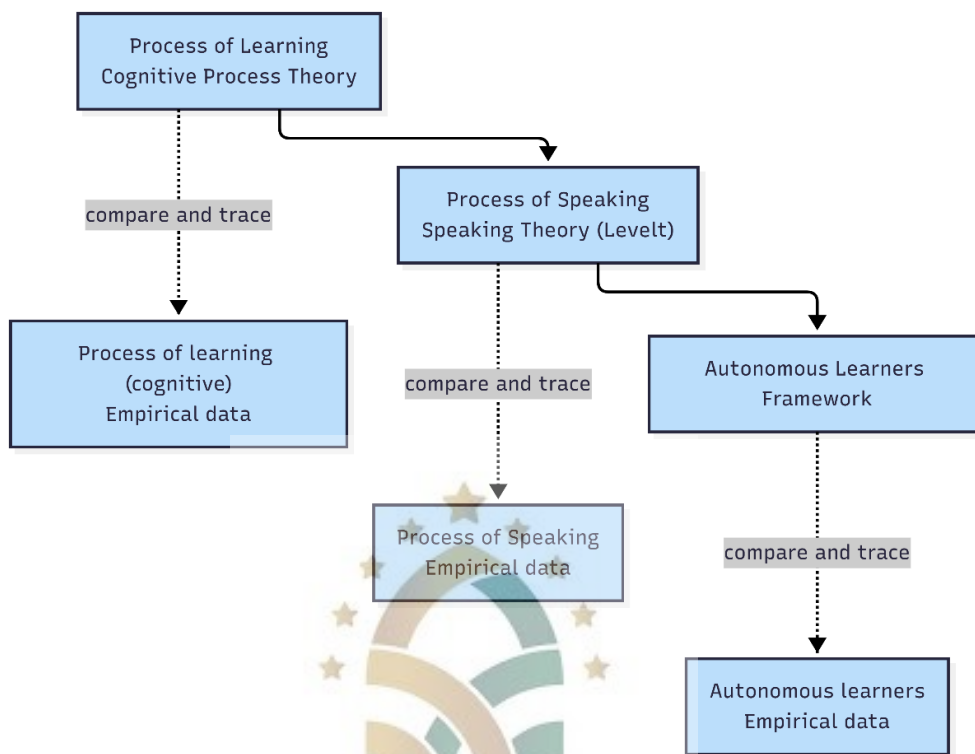
Researchers have also determined the position of this research among previous studies. Therefore, the position of this research lies in the process of learning English speaking among autonomous learners, which focuses on the cognitive processes of psychology and neuroscience education. If previous studies discussed strategies, preferences, perceptions, media, and activities in autonomous learning in general and did not explain how these processes occur internally, this study aims to fill that gap. In addition, previous studies have mostly used mixed methods and quantitative methods. In the context of the process of learning English speaking, qualitative approach have not been widely explored. Qualitative approach are essential in this study because they allow for deeper exploration and tracing of whether the learning process described in the literature corresponds to the actual conditions experienced by students.

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1.9. Frame of Thought

Table 1.1.

Frame of thought



1.10. Research Assumption

Researchers have developed research assumptions based on literature reviews and conceptual frameworks regarding learning autonomy, cognitive processes in speaking using a cognitive process approach, and processes that occur in the brain in language acquisition. This study is based on theoretical assumptions as a foundation for comprehending the learning processes under investigation. The main assumption of this study is that autonomous learners learn speaking skills through a series of structured cognitive processes such as attention, perception, encoding, and retrieval based on self-awareness. In addition, this study assumes that the strategies and media chosen by autonomous learners in speaking learning are related to the activation of mechanisms in the brain. Thus, the focus of this study is to reveal and explore in depth the mental processes experienced by autonomous

learners in learning speaking skills, as well as how these processes are in line with empirical findings in cognitive psychology and educational neuroscience.

1.11. Research Methods

1.11.1. Research Design and Steps of The Research

This study uses a qualitative approach to understand and explore in depth the process of learning English speaking among autonomous learners. Qualitative research is an approach that focuses on how something happens. Research that aims to understand and assess how relationships, activities, situations, or materials occur and what their quality is like is referred to as qualitative research (Fraenkel et al., 2023). In qualitative research, researchers do not convert data into numbers, but try to describe what they see and hear in detail and with meaning. Qualitative research usually obtains data from interviews, field notes, photographs, audio or video recordings, diaries, personal comments, official documents, and even text excerpts from books (Fraenkel et al., 2023). In addition, the research design chosen is a case study. This design was chosen because this study focused on gaining an in-depth understanding of the process of learning English speaking among autonomous learners, both theoretically and empirically. This research consists of several research steps, adapting the research steps from Creswell (2012):

1. Collecting data I: literature review
2. Data analysis I: critical literature review
3. Collecting data II: interview
4. Data analysis II: thematic analysis
5. Reporting and evaluating research

1.11.2. Data and Data Sources

This study was conducted at a university in Cirebon, specifically in the English Education study program. This choice was based on the consideration that

the English Education study program focuses on developing English language skills, making it relevant and appropriate for examining the process of learning English speaking among autonomous learners. This study involved sixth-semester participants. The reason for choosing participants from semester 6 is because they have sufficient experience in the process of learning to speak English. This experience enables them to provide relevant information, perspectives, and descriptions of the learning process they have encountered. However, this study only took fourth participants who were selected using purposeful sampling techniques. The selection of fourth participants was made because this study focused on the depth of the participants' experiences and learning processes. In addition, this number was considered adequate because the researcher conducted in-depth data collection through interviews until data saturation was reached, which is when the patterns of responses between participants began to be consistent and the information tended to be repetitive. The participants here were those who had the characteristics of learners who learned to speak autonomously. In selecting participants, the researcher had to select participants who met the criteria of autonomous learners in speaking by distributing a questionnaire containing indicators or criteria of autonomous learning. From the results of the questionnaire, the researcher selected five subjects or participants with the highest questionnaire scores, who were considered most capable of providing rich and relevant data.

1.11.3. Data Collection Techniques and Instruments

1.11.3.1. Literature Review

For data collection techniques, researchers used literature review. Literature review is a research methodology that can synthesize research findings and identify areas where further research is needed, thereby providing a basis for conceptual models and informing policy and practice (Snyder, 2024). A literature review can be described as a more or less systematic way of collecting and synthesizing previous research (Baumeister & Leary, 1997; Tranfield et al., 2003; Snyder, 2024). By synthesizing the findings and perspectives from a collection of studies, a

literature review can answer research questions with a power that no single study can provide (Snyder, 2024). written data sources that can provide deep insight into the experiences or situations being studied (Creswell, 2012). This technique is used to collect theoretical data on cognitive and neuroscience processes in learning to speak, as well as learning independence. The literature analyzed includes relevant scientific journal articles.

1.11.3.2. Interviews

Researchers use interviews to collect data. Interviews are an important technique in qualitative research. The type of interview used is a semi-structured interview. The purpose is to find out what a person thinks or feels about something. Through interviews, researchers can verify the accuracy of observations, whether they are true to reality or need to be corrected. Through interviews, researchers can gain an in-depth understanding of the views, opinions, experiences, and feelings of participants. There are several steps in conducting interviews based on Creswell (2012). First, determine participants who have autonomous learning characteristics. Second, choose the type of interview; in this study, face-to-face interviews were used. Third, record the conversation and write brief notes. Fourth, because this research interview is semi-structured, researchers can ask additional questions to clarify the answers. Interviews were conducted in Indonesian to enhance the rigor of qualitative research by providing insight into the researcher's positionality and how it influences their interpretation of participants' experiences (Younas et al., 2021). Furthermore, providing original and translated quotations has the added potential to enhance the symbolic and conceptual usefulness of qualitative research.

1.11.4. Data Analysis Techniques

1.11.4.1. Critical Literature Review (CLR)

Critical literature review is a technique that uses a systematic approach to collect and review previous studies. Critical literature review is not only about collecting data sources, but requires in-depth analysis and the ability to make decisions about relevant theories, how previous researchers thought, what the

results were, and how all of that forms a logical argument (Nashruddin & Mustaqimah, 2020). The critical literature review approach was chosen because this study requires not only basic theory but also in-depth analysis and criticism of previous research findings, which will later be compared with the interview results. Pendekatan tinjauan literatur kritis dipilih karena studi ini tidak hanya memerlukan teori dasar tetapi juga analisis mendalam dan kritik terhadap temuan penelitian sebelumnya, yang nantinya akan dibandingkan dengan hasil wawancara. There are steps in conducting data analysis through critical literature review adapted from Nashruddin & Mustaqimah (2020):

1. Collecting literature sources

First, to collect literature sources, researchers search for literature sources through journals, books, and reliable articles through online databases. Literature sources must be based on keywords derived from the research questions. In this research, the keywords used are learning, speaking skills, and autonomous learners.

2. Note important points from the literature

Second, select, read, and note important points from the literature. From the large amount of literature, the most relevant is selected, then read and noted for ideas that are relevant to this study. At this stage, the researcher only took literature related to the process of learning, English speaking, and autonomous learning.

3. Combining and interpreting the content of the literature

Third, combine and interpret the content of the literature. This stage involves bringing together important points from various sources to form a logical, clear, and interrelated line of thinking. The researcher compiles and organizes the literature using tables to group findings from various sources in order to discover patterns.

4. Interpreting the literature

The researchers synthesized and interpreted the findings by combining various pieces of information into a logical conclusion that answered the research question. This was done by comparing and grouping

the literature according to specific themes, thereby revealing the relationships between existing studies.

1.11.4.2. Thematic Analysis

After the data was collected through interviews, it was analyzed using thematic analysis. This analysis process involved reading the data thoroughly, understanding its meaning, and then grouping the information into major themes that emerged from the data. The researcher used thematic analysis to analyze the data in this study. Thematic analysis is a way to analyze qualitative data by looking for patterns, meanings, or main themes from the information collected. In this process, researchers examine how the data was collected, the extent of the researcher's understanding of the context, and how the researcher interprets the meaning of the data (Naeem et al., 2023). These analysis steps are adopted from Braun & Clarke (2006):

1. Reading the data as a whole

The first step is to read all the data as a whole to get an overview, by reading the interview transcripts, understanding the storyline, and writing small notes.

2. Determine important keywords from the data

The second step is for researchers to select important keywords, namely words or phrases that are repetitive, meaningful, and provide an in-depth description of the process of learning English speaking among autonomous learners. Memberi kode pada data.

3. Coding the data

The third step is for the researcher to code the data by reading the collected data, marking or coding to describe the meaning of that part, and collecting all the codes.

4. Grouping themes

The fourth step is to group the data into themes. Themes are a collection of codes that represent the main ideas in the news. Themes are developed reflectively, analytically, and in relation to one code and another.

5. Conceptualization through interpretation

The fifth step, conceptualization, defines and interprets the keywords, codes, and themes that have been found. At this stage, clear meaning is given to the main concepts or themes by linking them to relevant field data and theory, and making connections between concepts to build a coherent narrative.

1.12. Research Timeline

Table 1.2.

Research timeline



No	Target	Timeline																			
		January				February				March				April				May			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Data collection 1; literature review	■	■	■																	
2.	Data collection 2; interview			■	■																
3.	Qualitative data analysis; Literature review and interview			■	■	■	■	■	■												
4.	Findings and discussion									■	■	■	■	■							
5.	Revision and evaluating research.														■	■	■	■			
6.	Final report																		■	■	■